



University of Groningen

De lange golf in het economische leven; empirische en theoretische onderzoeken

Broersma, Tjitze Jacob

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version

Publisher's PDF, also known as Version of record

Publication date:

1978

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Broersma, T. J. (1978). De lange golf in het economische leven; empirische en theoretische onderzoeken. Groningen: s.n.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

SUMMARY

The long cycle in economic life; empirical and theoretical investigations

In this study we have investigated the question whether there is a long cycle in economic life, and, if so, what causes are at the root of it.

For more than a century several economists have occupied themselves with the phenomenon of a triple periodicity in the development of the most important variables that can be distinguished in economic life. What we mean here are the long cycle with a periodicity of 40–60 years, the medium cycle, which has a period of 7–11 years, and the short cycle with a periodicity of about 3 years. Since Schumpeter these cycles have been named in literature after the authors who first devoted studies to them, so the Kondratieff, the Juglar and the Kitchin respectively.

In the second chapter of this study we have summed up, successively, the empirical investigations of Kondratieff, Van Gelderen, who wrote under the pseudonym of J. Fedder, Cassel, Wagemann, De Wolff, Von Ciriacy-Wantrup, Sirol, Schumpeter and C. Clark. From these it became clear that the investigations of these authors were directed especially at the development of a number of important economic variables in Germany, France, England and the United States of America.

Most authors arrive at the conclusion that the following turning-points of the long cycle can be distinguished in the past:

the lower turning-point of 1850

Von Ciriacy-Wantrup and Schumpeter mention the year 1842 in this case, whereas Kondratieff used a broad margin: 1844–1851;

the upper turning-point of 1873

Here Kondratieff mentions the period: 1870–'75, Schumpeter 1869 and Clark 1875;

the lower turning-point between 1894 and 1897

In this case Clark mentions the year 1900.

On the next upper turning-point no collective point of view can be given on the grounds of the empirical material, as the investigations of some authors end with the outbreak of the first World War. Kondratieff mentions the period: 1914–'20, Wagemann 1920, Von Ciriacy-Wantrup 1918/19, Sirol 1926, Schumpeter 1924/25 and Clark 1929. Before 1850 there is no question of agreement at all among these authors with regard to turning years.

In order to find out whether the long cycle has existed up to the present day we have collected from about 1880 data relating to the development of a number of important economic variables in the United States of America. Here we have stated

our conviction that the development of the price level and the prices of separate goods have been the reasons for many authors to express their suppositions that there might be a long cycle. However, we have asked ourselves the question whether we may identify an increase and decrease of economic activity with increases and decreases in prices, respectively. Particularly in these days when price levels are rising in an alarming way, we see, for instance, a strong fall in activity in the western countries in particular.

We have asked ourselves the question whether — with regard to the long cycle — it would not be better to speak of turning periods, as Kondratieff does, instead of turning years. This because of the fact that the empirical material shows a multitude of movements, with which it must be deemed impossible to eliminate from the time series — with whatever statistical technique — all those cyclical swings and accidental movements which hinder a correct and accurate dating of the turning points.

Many of the authors mentioned above assume the existence of a relation between the phenomenon of the long cycle and the production of capital goods. A few terms used in connection with this are: basic innovations (Schumpeter), basic capital goods (Kondratieff), industry of factors of production (Van Gelderen, Cassel), and constant capital (De Wolff). The production of these capital goods takes up a considerable time, and at the same time it may be years before each entrepreneur will have provided himself with these means of production. In addition to this we mention the fact that very often changes in production technology can only be realized with great delays.

Both on account of the above and the investigation by means of time series of the United States of America we have arrived at the following dating of the long cycle:

lower turning-point 1896/98

upper turning-point 1925/27

lower turning-point 1945/47

upper turning-point possible in the second half of the nineteen sixties.

In the third chapter we have reproduced and discussed the views of the authors mentioned before with regard to the long cycle. Their theories can be rendered schematically as follows:

Kondratieff	cycles caused by gold production, accumulated savings and reinvestments
Van Gelderen	disproportionalities in the capitalist system
Cassel	gold discoveries and the central position for the rate of interest
Wagemann	generation variations
De Wolff	echo cycles
Von Ciriacy-Wantrup	wars
Sirol	agriculture

Schumpeter innovations
Clark capital-sated and capital-hungry periods

In the after-considerations with the discussion of these theories we have made it clear that in the complicated economic process the idea of mono-causality should be rejected. As several authors have found, we should rather start from the idea that fluctuations are caused by delays and slow adjustment processes. In this case socialist authors, such as Kondratieff, Van Gelderen and De Wolff, speak of a lack of organization in the capitalist system. Clark points out that there is an alternation of capital-hungry and capital sated periods.

In two cases we have tried to translate the theory of the long cycle in terms of mathematical models. The models have turned out to be able to generate cyclical swings of long duration in certain circumstances.

In the fifth chapter we have built a model in which we have emphasized the supply factors in the economic process. Just as we did with the models in the third chapter, we have assumed a closed economy without a government sector. We have assumed perfectly competitive markets as well. In this model, which contains both neo-classical and post-keynesian elements, we have built in – among other things – the possibility that reactions of economic subjects to changes in economic variables are not momentary. After the presentation of this model we have first investigated the question whether the model admits of steady state growth, which appeared to be the case. After that it became apparent in the stability analysis that around the path of steady state growth a long cycle can be generated by the model. As was to be expected the length of the cyclical swings turned out to be highly dependent on the rate at which the factor-price ratio reacts to situations with a lack of balance in the labour market. Besides, it turned out that the period of the cycle is also influenced by the ease with which desired substitution can be carried out.

In this last chapter we have shown that in the economic system forces may be active that can be held responsible for very slow adjustment processes, which lead to the occurrence of cyclical swings of long duration.

If these forces should be present at all, this would not mean that a full explanation of the long cycle has been arrived at. A full explanation of the long cycle will never be possible without a mechanism generating exogenous shocks from time to time. No attention has been paid to this last phenomenon in the fifth chapter. In contrast, the authors mentioned in the second and third chapters of this study did give consideration to it.